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INDIANA FARMER & GARDENER.

Indianapolis, Saturday, August 9, 1845.

Wine and Horticulture.

"*Look not thou upon the wine when it is red, when it giveth his color in the cup, when it moveth itself aright.*"

Now, the Cincinnati Horticultural Society appointed D. B. Lawler, S. P. Foote, M. Flagg, J. Resor, and E. Brigham, a committee to do just what Solomon says must not be done. Their report is contained in the June No. of the Western Farmer and Gardener. It is a very artful document, so drawn up that the unwary would suppose that this was a mere business affair—passing off quite respectably. But we were not to be deceived; we instantly saw through it; and, pencil in hand, we noted all places in the report proper to shock a true Washingtonian heart.

Although the array of forty kinds of wine save one, did not intimidate these hitherto respectable gentlemen, it inspired them with prudence; and Messrs. Brackman, Werk, and Rehfuss were called in, to ferret out any foreign wines which might have been smuggled in to the confusion of the judges.

The committee only darkly intimate their *modus operandi*; if they had given us a journal of their doings, made out on the spot, by some trusty clerk, what a bacchanal mystery would have been disclosed! but they had discretion enough left to defer this until they were sober again.

But Washingtonianism is abroad, and can detect all the mysteries of ebriety, however graced with authority from a Horticultural Society. We can imagine the impatience with which the bottles were preliminarily eyed—the entire moderation with which each sipped a few first specimens; we can see them gradually warming with their subject,—tasting with alacrity—nodding at each other, squinting through the ruddy glass, smacking their too often dewy lips, or wagging their heads with more than ordinary satisfaction as a beaker of great merit made the *facilis descensus averni*. Laughter interrupts sober attention to business; in vain the chairman Lawler thumps the table for order; he gets more jokes than attention. Many a sly story is told; some of them have visited wine countries and now begin long yarns thereof; the clamor of laughing, and anecdote, and criticism—the necessity, in consequence, of re-tasting, and tasting again to arrive at a conclusion, brought them, we doubt not, to a most lamentable conclusion, although the report only obscurely hints of

it, as we shall see. Had any of them married into the Caudle connection we might have had a graphic account of their several arrivals at their homes—at what time, by whose help, in what condition, &c.

The tabular report given in has evidently been studiously framed. We suspect that if the opinions had been set down just in the order of their occurrence, they would have afforded an index of the condition of the committee as well as of the wine. But though they have mixed them up, they cannot elude our vigilance—we can pick out the chronological order. At first such opinions as these were given: "Tolerably good," "Inferior," "Poor, fermented on skins." They were critical yet; but warming a little they express more generous sentiments; "Good," "Very good Cape," "Very good, resembling old Madeira." The next step shows the genial advance—some were getting disputatious. "Good, considered by some better than No. 8, by others not so good,"—they evidently had a row about it. They next advanced into the patriotic mood as is seen in the judgment of our foreign wines, "Good dry wine, but supposed to be foreign,"—"Inferior, a foreign wine,"—"Not American wine." Here the gradations of contempt are very plain. We have next, melancholy evidence of their progress in the necessity of a stronger body to their wines,—"Not liked, supposed to have been injured in the bottle." Why not say it right out, that it was a weak thin wine! Here we have it, "Good *strong* wine." The last record made is "Good new, not in a state for judgment." Does this refer to the wine or to the committee? To the latter we suppose; and at this point, probably, perceiving their condition, they laid aside their official character and made it a private, personal, and somewhat miscellaneous affair. We see now the meaning of a sentence which follows the tabular exhibit:

"The judgments pronounced and recorded in the foregoing table, were as nearly unanimous as can ever be expected among so many judges."

The committee state in respect to Western wines: "That the pure juice of the grape when judiciously managed will furnish the finest kind of wine, without any addition or mixture whatever; that no sacharine addition is necessary to give it sufficient body to keep for any length of time in this climate."

We submit that the *keeping* properties of wine are not altogether intrinsic; but depend much upon the persons having access to them, or, as we were taught in school, "on time, place, and person." In *our* cellar American wines would doubtless have great longevity. We wish to call the attention of Mr. Gough, who is expected in Cincinnati ere long, to the closing sentence of the report:

"A taste for the wines of this region appears to be well established, since all that can be produced finds a ready market at good prices; and the committee are of opinion, that the period is not distant when the wines of the Ohio will enjoy a celebrity equal to those of the Rhine."

Here's work on hand for him. In conclusion, we respectfully suggest that the same committee be continued from year to year, as there is no use in spoiling a fresh set every year. If the specimens multiply, perhaps more help will be required—at any rate a bye-law should be passed, so that there shall be one committee man to at least every ten bottles.

Ornamental Shrubs.

A description of a few of the desirable flowering and ornamental shrubs for yards and lawns may enable our readers to select with judgment.

Privet.—This is quite beautiful as a single plant; but is universally employed for hedges, verdant screens, &c. There is an evergreen variety, originally from Italy, by far the best. The roots of this plant are fibrous, don't spread much; the limbs endure the shears very patiently; it grows very rapidly, two full seasons being sufficient to form a hedge; and it will flourish under the shade and drip of trees.

Rose Acacia. (Robinia hispida.)—This is a species of the locust, of a dwarf habit, seldom growing six feet in height, and covered with fine spines which gives its branches a mossy appearance. Its blossoms resemble the locust, but are of a pink color. It is often grafted upon the locust to give it a higher head and better growth. It should be in every shrubbery.

Venetian Sumach or smoke tree, (Rhûs cotínus.)—The peculiarity of this shrub is in the large bunches of russet colored seed vessels, looking at a little distance, like a puff of smoke. The French and Germans call it *periwig tree*, from the resemblance of these russet masses to a powdered wig. It grows freely and is highly ornamental.

There are two other species of sumach worthy of cultivation; the Rhús typhína or Stag's Horn sumach, of a fine flower, and whose leaves turn in autumn to a beautiful purplish red; and the R. glábra, or scarlet sumach, having red flowers and fruit of a velvety scarlet appearance, changing as it ripens to crimson.

Syringa, or mock orange (Philadélphus Coronárius) is a beautiful shrub, having in the spring flowers of a pure white, and of an odor only less exquisite than that of the orange; whence one of its popular names.—The leaves have the smell of the cucumber; and are sometimes used in spring to flavor salads. It grows freely even under the shade of trees, which, in all low shrubs, is a valuable quality. There is also a large flowered inodorous variety. The popular name, Syringa, is the botanical name of the lilac; but these plants are not in the remotest degree related to each other.

Lilac.—This well known and favorite little tree requires only to be mentioned.—There is a white variety and delicately leaved variety called the Persian.

Snowball, (Vibúrnum Opulus) every where known and every where a favorite, and scarcely less so is the

Waxberry or snowberry (Symphòra racemòsa) introduced by Lewis and Clark to the public attention, and first raised from seed by McMahan, a gardener of some note.—When its fruit is grown it has a beautiful appearance.

Tamarisk. (Tamarix gallica) a sub-evergreen of very beautiful feathery foliage, of rapid growth, and highly ornamental in a shrubbery. It will grow in very poor soil.

Shepardia or Buffalo berry, from the Rocky mountains, a low tree, with small silvery leaves, a currant-like fruit which, is edible. This is worthy of cultivation. It is dioecious and the male and female trees must therefore be planted in proximity.

(*To be continued.*)

Collections and Recollections.

Gather up the fragments . . . that nothing be lost.

Large Growth.—We have before us a leaf of the common morning glory, which grew near our residence, measuring 20½ inches from the base of the stem to the tip of the leaf. The leaf itself measures, across, nine inches; and in length fourteen inches. If Eve had selected the convolvulus for her covering, one leaf would have sufficed.

Frost in July.—Our west and north west winds are almost invariably cold. On the night of July the 30th a frost was felt in this place, and was plainly discernable on the morning of the 31st in the drooping terminal leaves of some tender exotics which were in the open air. We have, in this month, had the thermometer in the shade, as high as 98°, and for days together it has stood at 96°. As we have had frosts too, we only need a spell of skating to make out a piebald and speckled month.

Washington Wheat.—While the Hon. O. H. Smith was in the U. S. Senate the statue of Washington, by Greenough arrived, and from the straw in which it was packed, he obtained an ear of wheat with 21 grains. He sent it to his nephew, Wm. Parry of Burlington Co., N. J., who has raised from it enough to sow broad cast; and the last Farmer's Cabinet says, that last year he raised three bushels lacking a quart to one-twelfth of an acre. The head is remarkably large and well filled. It is proposed to call it the Washington Wheat.

Trimming Hedges.—This should be done between the summer and the fall growth, while the plants are, comparatively, at rest. Besides reducing the size of the hedge, pruning is resorted to for the purpose of producing growth low down on the stems. For this purpose the top should be *bevelled* both sides, allowing the middle and bottom of the hedge the full influence of the sun.

Garden Work for August.

Dahlias will require special attention to secure them from splitting down, and breaking; let every part be well supported by ties. The cool nights and warm days of approaching fall will give them their most vigorous growth.

Saving Seed.—Beet, spinnage, peas, celery, salsify, lettuce seeds will now be ripe and should be gathered. Even if not quite ripe they may be plucked, as, experiments seem to shew that seeds are more injured by over ripeness than under ripening. Seal up your peas in bottles and put wax about the cork, according to Dr. Plummer's directions, and the larvæ of the pea bug will die for want of air. Seeds are ripened best in their own pods or receptacles; and where they ripen nearly at the same time, and do not easily shake out, we hang the whole plant in an airy shed, barn, &c., until winter; and then, for convenience, thresh out and pack up.

As fast as your perennial plants have shed their flowers, let the seed pods be destroyed, unless you wish to save seed, as the ripening of seed exhausts the root.

Young peach trees, of this spring's planting, should have the side shoots cleared away and one strong centre stem secured for budding this fall.

Onions may now be gathered. Let them lie a day or two on the bed or in the alley, and then be transferred to a cool and airy place. The sets for top onions may be tied in bundles and hung up till spring.

Where peas and bush beans have been cleared away, turneps may be sowed for a fall and winter crop.

Spinnage seed should be got ready to be sown in September, if you wish a good supply of this choicest of all spring greens.

Celery plants will begin to grow strongly in the trenches; water with liquid manure; if troubled with insects, dust with quick lime and water with salt water. Above all things be careful in drawing in the earth to keep it out from the heart of the plant, and let it be done in dry weather.

Toledo Blade.

This trenchant blade sticks in the sheath or at least, sticks somewhere, as we seldom receive it. It carries a keen edge, which lasts well, has cut many a poor fellow in two, is as good at thrust as at downright cuts, and altogether quite justifies the celebrity of its far-famed name. And now after so much, will the Editor see that it is mailed regularly for us?

Farmers and Farming Scenes at the West.

No. 2.

About eight years ago a raw dutchman, whose only English was a good natured yes to every possible question, got employment here as a stable-man. His wages were six dollars and board; that was $36 in six months, for not one cent did he spend. He washed his own shirt and stockings, mended and patched his own breeches, paid for his tobacco by some odd jobs, and laid by his wages. The next six months, being now able to talk 'goot Inglish,' he obtained eight dollars a month, and at the end of six months more had $48, making in all for the year $84. The second year, by varying his employment—sawing wood in winter, working for the corporation in summer, making garden in spring, he laid by $100, and the third year $125, making in three years $309.

With this he bought 80 acres of land.—It was as wild as when the deer fled over it, and the Indian pursued him. How should he get a living while clearing it? Thus he did it. He hires a man to clear and fence ten acres. He himself remains in town to earn the money to pay for the clearing. Behold him! already risen a degree, he is an employer! In two years' time he has twenty acres well cleared, a log house and stable, and money enough to buy stock and tools.—He now rises another step in the world, for he gets married, and with his amply built, broadfaced, good natured wife, he gives up the town and is a regular Farmer.

In Germany he owned nothing and never could; his wages were nominal, his diet chiefly vegetable and his prospect was, that he would be obliged to labor as a menial for life, barely earning a subsistence, and not leaving enough to bury him. In five years, he has become the owner in fee simple of a good farm, with comfortable fix-

tures, a prospect of rural wealth, an independent life, and, by the blessing of heaven and his wife, of an endless posterity. Two words tell the whole story—Industry and Economy. These two words will make any man rich at the West.

We know of an another case. While Gesenius, the world-wide famous Hebrew scholar, was at school, he had a bench fellow named Eitlegeorge. I know nothing of his former life. But ten years ago I knew him in Cincinnati as a baker, and a first rate one too; and while Gesenius issued books and got fame, Eitlegeorge issued bread and got money. At length he disappeared from the city. Travelling from Cincinnati to Indianapolis, a year or two since, I came upon a farm of such fine land that it attracted my attention, and induced me to ask the owner. It belonged to our friend of the oven! There was a whole township belonging to him, and a good use he appeared to make of it. Courage then, ye bakers! In a short time you may raise wheat instead of moulding dough.

Pulling off Potato Blossoms.

The Boston Cultivator, speaking of this process, says:

"As the qualities of the potato ball or apple differ considerably from the root or tuber, it may be that the juices destined to nourish the balls will not, on removing the blossoms, go to increase the roots. This view is not unreasonable."

We do not suppose the theory to be, that the sap tending to the bloom and ball *returns* to the root. But, simply, that there will be so much less food to be prepared, and therefore so much less exhaustion to the vegetable economy. It is well known that the filling out and ripening of seeds is eminently exhausting to the plant. It has long been the custom of Florists who wish shew-flowers, to refuse their bulbous plants leave to bloom for one season, plucking off the bud, that they might be so much the stronger for the next year's blooming.

But we suppose the truth to be this. The sap is prepared in the leaf and enters the distributing vessels of the plant. It is conveyed to every organ, each part, receiving its portion, *modifies it by a farther chemical action peculiar to itself.* Thus, in the case of an apple tree. The elaborated sap which goes to the leaf, the alburnum, the liber, the blossom, the fruit is the same in all; but the fruit gives it a still further elaboration, by which it imparts the peculiar properties belonging to it, in distinction from the other tissues; so of the bark, the blossom, &c. If, then, the seed vessels are removed. so much less elaborated sap is consumed as they would have required; and this, or, at least, portions of it, are given to the other parts of the vegetable economy.

Strawberries.

Mr. Editor:—Please give us the best time and method of transplanting strawberry sets. Also, the best mode of cultivating to insure a good crop. I have procured four of the best varieties, and intend cultivating them.

G. M.

Directions for the culture of the strawberry will vary with circumstances;—as, whether it is raised for private use, or for market. But, for whatever purpose cultivated, respect must be invariably had to the fact of staminate and pistillate flowers, or male and female. Each flower contains the rudiments of both the male and female organs. But the male organs are more or less defective in one set of plants and the female in another "and, in the Hudson and some others, it amounts to a complete separation of the sexes. In some of the male (staminate,) varieties more or less of the blossoms are also partially perfect in the female organs and will produce some fruit."

"Every flower contains both the male and female organs; and, in the white and monthly, both organs are always perfect in the same blossom, as far as my experience goes. In other kinds, the male organs are more or less defective in one set of plants, and the female in the other; and, in the Hudson and some other varieties, it amounts to a complete separation of the sexes. The male organs are so defective in one set of plants, and the female in the other, that an acre of either would not produce a single fruit. In some of the male (staminate) varieties, more or less of the blossoms are also more or less perfect in the female organs, and will produce more or less fruit; but I have never seen a female plant with the male organs sufficiently developed to produce a single perfect fruit. Hovey's seedling, and some others, may produce deformed berries.—*Longworth.*

Mr. Longworth, in consequence of this fact,

always has a compartment allotted to male and one to female plants, and out of these he forms his beds, being able thus to ensure a proper proportion of males to females. Mr. S. S. Jackson, a very skilful nurserymen of Cincinnati, usually in selling plants, puts up ninety females to ten males in the hundred. Where beds are to be made this season, the risk must be run of having barren plants.

We shall now give the time and manner of planting of some of the best cultivators in the west, at the east, and in England.

Mr. Jackson says "I plant any time from the first of April, till they are in bloom. I, one year, planted 25 square roods of ground; the plants were all in bloom when set out; and the next year I picked 38 bushels, and there were fully 10 bushels left on the vines.

"I plant them in this way—first plow or spade the ground; harrow it smooth; then strain a line on one side nine inches from the edge, and a row from twelve to fifteen inches apart; then move the line eighteen inches, and plant another row; then move it three feet, and again eighteen inches—and so on till the ground is planted. I then go over and put one male plant every six feet, between the two rows. Keep them clear of weeds through the summer, and let them spread as much as they will.

"In the fall dress the out walks eighteen inches wide, which will leave the beds three feet wide; and when it sets in cold, give them a light covering of straw; rake it off in the spring. You may then expect a full crop. It is best to make a new bed once in two or three years."

But plantations may be made through the summer, and as late as September; of course, the earlier in the season the better established the plants will become before winter, and the larger the next summer's crop. Thus, a bed formed in September would bear very scantily; while Mr. Jackson's beds, formed in the spring, produced a large crop the next season.

Mr. Kenrick gives the following methods as practiced by market gardeners near Boston; the first one strikes us as being the most economical way of working strawberries, on a large scale, that we have seen:

"In the vicinity of Boston, the following mode is often adopted: The vines are usually transplanted in August. The rows are formed from eighteen inches to two feet asunder. The runners, during the first year, are destroyed. In the second year, they are suffered to grow and fill the interval, and in the autumn of that year, the whole old rows are turned under with the spade, and the rows are thus shifted to the middle of the space. The same process is repeated every second year.

Another mode, which may be recommended generally, is to plant the strawberries in rows thirty inches asunder, and nine inches' distant in the row, and suffer the vines to extend to the width of eighteen inches, leaving twelve inches' space for an alley; or allow eighteen inches' width to the alleys, and three feet asunder to the rows; and to form new beds every three years, or never to suffer the bed to exist over four years; and to plant out in August in preference to spring.

Dr. Bayne of Alexandria D. C., gives his method of producing very large fruit. A peculiarity of his treatment is the use of undecomposed or green manure. Almost every other cultivator recommends *well rotted* manure; and, we are inclined to think, with the better reason. We have found some English cultivators who agree with him; but the most dissuade from the practice, as making plants productive of leaves rather than fruit.

"To produce strawberries of extraordinary size for exhibition, I would recommend the following preparation: select the best soil and trench it at least two feet deep; incorporate well with the first twelve inches an abundance of strong undecomposed manure; pulverize and rake the ground well, then mark off the rows twelve or fifteen inches asunder, and set the plants in the rows from twelve to fifteen inches, according to the luxuriance and vigor of the variety. During the first year, the runners must be carefully and frequently destroyed before they become rooted. By this means the stools become very vigorous and bear the most abundant crops. In the spring after the fruit is set, place around each plant a small quantity of straw, or what is much better, cover the whole surface of the ground one inch thick with wheat chaff. This prevents evaporation, protects the fruit from the earth, improves the flavor, and will greatly increase the size."

Loudon gives Garnier's method of treating the strawberry as an *annual*. It is peculiarly applicable to small gardens. The observations on the depth of soil required, are worthy of especial attention:

"Early in August, or as soon as the gatherings are over, I destroy all my beds, and

proceed immediately to trench, form, and manure them in the manner before directed, to receive the plants for the crop of the ensuing year, taking care to select for that purpose the strongest and best-rooted runners from the old rejected plants. If at this season the weather should be particularly hot, and the surface of the ground much parched, I defer the operation of preparing my beds and planting them till the ground is moistened by rain. Such is the simple mode of treatment which I have adopted for three successive years, and I have invariably obtained upon the same spot, a great produce of beautiful fruit, superior to that of every other garden in the neighborhood. Depth of soil I have found absolutely necessary for the growth and production of fine strawberries, and when this is not to be obtained, it is useless, in my opinion, to plant many of the best varieties. It is not generally known, but I have ascertained the fact, that most strawberries generate roots, and strike them into the ground, nearly two feet deep in the course of one season. The practice of renewing strawberry plantations every year, and even of using runners of the current year for forcing, is now become very general among gardeners. Mr. Knight generally adopts this mode, and, notwithstanding the increased labour attending it, it is even adopted by some market-gardeners about London for their earliest crops. It is invariably found that by this mode the fruit not only comes larger, but somewhat earlier. It must always be recollected, however, by those who intend practicing it, that almost the whole of the success depends on bringing forward the earliest runners, by encouraging them to root. This is done by stirring the soil beneath them, hooking them down, or retaining them in their proper places by small stones; or, when the object is to procure plants for forcing, rooting them into small pots."

Native Cows.

The Mass. Plowman, July 19, gives the portrait of a native cow from whom 15¼ lbs. of butter were made in the last week previous to the writing of the article. Her feed was grass and two quarts of meal a day.

Will Mr. Buckminster be kind enough to inform us what a *native* cow is, in Massachusetts? Our impression is, that, long before public efforts were made, or large importations of foreign herds, there were still brought from England to New England, many animals of the various strains of blood famous in the Herd book; and that the blood is very widely spread in New England. We have an impression that the oxen of Worcester county—the deep red, medium sized, nimble, docile oxen, which we have often seen, the pride of their owners, were of the Devon blood, although not descended very directly.

When a native animal is spoken of, is it not very likely, often, to be a descendant of these improved foreign breeds?

When is Haying over?

We should like some information on the subject of haying.

In a trip to Montgomery county we saw several fields of timothy, out of blossom, long ago, and become dry, seedy, and snuff-colored. Haying was not over it seems.—Cattle that had been hardened to eat iron-weed stems, jimpsum stock, and packing straw, would probably be willing to eat this hay.

We saw another sight. Hay which had been cut and partly cured, was cocked up and had been left, probably, for a week or two already; and, doubtless, was to stand thus much longer, for there is a fashion with some to let their hay lie about the field in little three feet cocks, *until it is convenient* to haul it to the stack. This may be in August, or September, and sometimes we have seen a farmer (so called) with a little sled and rope hauling his hay in October!

Now, hay thus served is good for nothing, but for litter. The bottom of each little heap moulds, the sides are, by sun and rain, spoiled, and the little wad in the middle does not, after subtracting the sides and bottom, amount to much.

I'll venture my head that these are not 'book farmers.' I have no doubt that 'book farmers' do some foolish things, but farmers without books do a great many more. No book farmer, none but a farmer utterly without books, would think of leaving his hay in cocks for six weeks or two months. We shall see enough of such hay offered on the street this winter, of a dingy, lack-lustre, straw colored look, without fragrance, or odor of any sort except a faint smell of old wood, or more pungent odor of mould.

We say in conclusion, grass should not be

left so long that it will be already dry and cured before it is cut; and, after grass is once down, it is not to be treated like flax and left to bleach and rot, but should be got in as *soon as possible*. Farmers whose hay is on the stack or in the mow may laugh at this article; those whose hay is yet out had better do something besides laugh.

Budding Oranges and Lemons.

Mr. Editor:—Please give us the best time and method of budding the orange and lemon: and inform us whether they require the buds to be reversed to insure success.

G. M.

Where plants are raised for commercial purposes it is best to plant seeds, and at two years of age, if the soil and culture have been good, they will be ready for the knife and bud. The time of budding is the early summer, while the plant is in full growth; or during the second growth in autumn.—There is no necessity for reversing the bud. Let the orange be budded as you would inoculate a peach tree, an apple, or a pear. Old plants may be headed down, which will cause new and vigorous shoots to put forth, and these may be worked; or, if there is suitable wood already, the plant may have its top changed at once without heading down.

ORIGINAL CORRESPONDENCE.

For the Indiana Farmer and Gardener.

Potato Blight.

Mr. Editor:—I have just returned from an examination of my friend Robert Morrison's potato patches. A disease not heretofore noticed in this section of the country, has attacked many of his vines; and, that the readers of this paper may be made acquainted with its character, I proceed to give the results of our researches. In all cases of enquiry into causes, I conceive it to be important to right deductions that we should first lay a broad foundation of accurate observations. When these observations are sufficiently numerous and rightly arranged, a correct theory springs almost spontaneously out of them.

My present purpose is merely to aid in accumulating data; and to distinguish this from any other affection to which our potatoes may be liable.

1. There are three different lots of potatoes which we examined. One patch was planted so early as to have been prostrated by two successive frosts. The other two patches were planted about nine weeks ago.

2. One patch of the late planting, is in a well manured sod ground; the others in a poorer soil.

3. All these lots are affected with the disease; but the frosted potatoes the least.

4. The disease in every instance, was found to be confined to the *vines*. These were affected generally near their entrance into the earth, a few inches below it, and a few inches above it.

5. A person in a general review of the field, would perceive nothing but a luxuriant crop of potatoes; on passing watchfully along the rows, he would discover here and there, some prostrated vines with *wilted* leaves. On close inspection he would find at the points named a perfectly *dry* decay of the stem: the pith is entirely gone; the cuticle is also removed or dried to imperceptible thinness; and nothing remains but the ligneous fibres whitened by disease, and sometimes separated laterally. This is the worst stage of the disease yet observed. The parts below this point are perfectly sound at present.

On turning to other stems indiscriminately, whose leaves and vines are apparently in the full vigor of health, we perceive the earliest encroachments of visible disease. Here we see a little discolored patch of cuticle dried up and sunken to the ligneous fibres below; the parenchymatous matter among the cuticular tissue having disappeared. Let us gently scrape away this dead cuticle and we shall find the ligneous texture yet living; but in the next plant this is also decayed; and in still another we witness the destruction of half the pith; and in another the pith is all gone; and then we arrive at the last stage or total rottenness. In most instances there are several such patches of cuticular decay, of irregular figures; but there is a well-defined line of separation between the dead and living parts. Let us slice longitudinally, one of the vines in which these spots of decay have penetrated into or through the pith, and we shall find portions of solid, and apparently sound pith, in the intervening portions of the stem.

6. In several instances the returning sap being interrupted in its descent by the cuticular decay, formed small tubers (perfect potatoes) just above the diseased point.

7. In a very few cases the blight had affected the branches of the vines; and in as few cases the decayed pith was found in a slushy state.

There is no apparent erosion of the cuticle; but the idea is suggested of all the pulpy matter in it being abstracted, and the

cuticular film collapsing upon the parts beneath.

We may safely say upon these observations, that the disease undoubtedly commences on the *exterior* of the vines; and that the upward circulation is continued, long after the downward current is partially, if not wholly, intercepted; that the disease tends to penetrate *into* and not to pass along the vines; the tops perishing only when no nourishment can be obtained from below.

If the tubers should become affected, I will endeavor to report the facts, unless anticipated by others. J. T. P.

For the Indiana Farmer and Gardener.

Canker Worm and Cheap Remedy.

MT. JENNER, near Versailles, Ind., July 28th, 1844.

MR. EDITOR.—For several years past some of the finest orchards on the banks of the Ohio in the counties of Switzerland and Dearborn have been rendered totally valueless by the destructive ravages of the canker worm. Orchards which have heretofore yielded an income to their proprietors of from one to two thousand dollars per annum, not producing enough fruit for family use.—These worms are extending rapidly, and many orchards some miles back from the river are this year affected. The means of prevention heretofore recommended, if they would answer at all, are so troublesome and expensive as to render their use out of the question in large orchards. Who would think of applying tar to a belt round the tree every morning from fall to spring over an orchard covering 40 acres of land? or of removing the earth and applying lime?—it cannot be done. In a recent conversation with J. C. Eggleston, Esq., who resides six miles below Vevay, and whose orchard of forty acres of apple trees has for the last four years been stripped of every leaf and bud in spring by these worms, he informed me that a neighbor of his, Mr. John F. Cotton, has adopted a method of preventing their ascent, of easy application and trifling expense, which promises to be perfectly successful.—It is this. A roll, or bat of wool, evenly carded, is applied round the body of the tree and tied tightly to it by applying a twine carefully all round on the middle of the roll. The wool above and below rises over the twine, and thus it is buried and hid in the middle of the roll. Mr. Eggleston says he visited his neighbor last spring, and with him carefully observed the result. The worms crawl up the tree until the roll of wool is encountered, then make persevering efforts to push through it, but failing in this they carefully hunt all round for a gap through which to pass, and finding none they will not retreat, but get as close under the wool as they can and there deposite the egg. This remedy, to be perfectly successful, must be applied about the first of November, as some of the worms ascend at that time, but most of them in February and March. Mr. Cotton applied the wool to his trees in February. Some worms had ascended previous to that time but not enough to destroy all the fruit on the trees. The trees in the same orchard to which the wool was not applied are entirely braven. Mr. Eggleston intends applying the wool this fall to his whole orchard, and expects by this simple expedient entirely to save his fruit in future from the ravages of this insect. He has carefully observed the habits of the insect for the last three years, and compared his own observations with those of Professor Peck, and coincides with him in every particular save one, which is, that, according to Professor Peck, the worm does not enter the ground at a greater distance from the tree than about three feet, whereas Mr. Eggleston, finds them entering the ground as far out as the limbs extend.

After eating the leaves and buds they let themselves down to the ground by spinning their thread for that purpose, and enter at the place where they first touch it.

If this communication can meet the eye of persons whose orchards are infested with the canker-worm, and they will adopt the method of Mr. Cotton with care, and, in time, I doubt not that the insect will be exterminated. The eggs hatching on the trunk of the tree where there is nothing for the young worms to subsist upon, they will of course perish, or may there be easily destroyed. Respectfully &c.

W. T. S. CORNETT.

P. S. Some of our farmers who read your paper are getting in the notion of planting orchards of grafted trees instead of seedlings.

A young farmer, an acquaintance of mine, and one of your subscribers, has lately purchased a farm with an old seedling orchard on it, the picture of hard times. It is almost enough to set one's teeth on edge to look at such an orchard. I advised him to exterminate it root and branch and begin *de novo*. He intends buying and planting one hundred grafted trees this fall, and desires me to make him out a list of the best. As you are more competent than I, and nothing of the kind has yet appeared in the Farmer and Gardener, please make out and publish a catalogue of such as you can recommend, so soon as you can find convenient. Many of your readers need information on this subject.

REMARKS.—This letter is just what we want. It gives a practical view of an important

subject, and asks for information on others. With such correspondents an editor knows exactly what to do. He is let into the real wants of his readers and can supply matter that will come home to them. Why does not every reader that would like to have information on any point of farming or gardening, write and ask it? Is he afraid of postage? We will cheerfully pay that. Is he afraid he can't write well enough? We'll correct it for him. Is he afraid we can't read his 'hand-write?' We defy a person to write *anything* that we can't make something out of it —if he even takes his plow to do it with.—*Editor.*

For the Indiana Farmer and Gardener.

Corn--Tomatoes--Egg Plant.

Green corn is *roasting ears* in Hoosier parlance. Many object to eating corn in the green state, alleging as a cause, its bad effects upon the system. And why has it bad effects? I think it is no fault of the corn, but of the *cooking*—yes cooking is *the* thing. Show me a good cook, and I will show you a good dish, whatever the vegetable to be cooked. Now, the way to prepare corn for the table is not to put it into a pot and boil it for an hour or rather until it is good for nothing, but to throw to the hogs—but simply to put on your water, and when it boils, then put in your corn with a little salt—cover up tight, and let it boil five minutes, or until the cob is *heated through;* (this is the criterion by which my good mother was governed,) then the corn is done, and you have all the sweet and nutritious qualities without (in my opinion) any of its injurious effects. I make a free use of green corn in my family, from the time it is fit, until it becomes too hard for boiling. Lest I should not get my share of this delicious vegetable, I make three plantings, that I may have a succession. I use it three times a day, my children eating as much as they want, and no evil results from it; far from it, they grow fat upon such diet. My children refuse bread and butter so long as they can get the corn; and it would make you smile to see the cobs piled up like cord-wood, along side each plate, when they have finished their meal. If our females would pay more attention to cooking, we would all be gainers; for so simple a thing as boiling potatoes is not done without care. Who wants to eat water-soaked potatoes, when they can as easily be cooked dry and mealy? or corn or peas, when their substance has been boiled out?

Tomatoes.—This vegetable not only acts as a tonic but makes a most delicious diet. They are an excellent article in soups, and the modes in which they are cooked are various. Tomatoes are like the negro's rabbit, "good any way you fix 'em." The way in which I prefer them, is to slice up in a pan and fry them with fresh meat; or rather, after the meat has been taken out. They make an excellent sauce, a good preserve, and a delightful catsup. Imagine yourself for a minute, (now don't get vexed,) seated at the table with a nice venison steak, hot upon the chafingdish smoking with the fumes of tomato catsup! Whew! pardon me all ye aldermen and epicures, for thus exciting your alimetary powers without the means of allaying such irritation.

Egg Plant.—This is a delicious vegetable and deserves universal cultivation. They come next, I think, to the tomato, and may be considered a luxury. They are cooked in various ways, such as slicing up and frying with pork, or fried in melted butter. The best way of cooking them, I think, is to slice them into a batter mixed for the purpose—have your pan of fat hot on the fire, and with a ladle put them in to cook, one piece at a time. Cook them quick, and when done they may be taken out completely enveloped in the pastry, and then, take care boys, don't bother me while I am eating!

Yours, M.

REMARKS.—This is too bad. If M. writes such savory articles he must read his own proofs. For, as we do this work before dinner we are unwilling to have such temptations put before the imagination. We will testify that M. speaks *Ex Cathedra* on culinary matters, having a notable housewife whose cooking ought to satisfy an epicure; and as for catsup, we will defy the world, and Paris to boot to beat her in compounding this curious and cunning tempter of the appetite. We speak advisedly.—*Editor.*

Mr. Joel W. Andrews, of Norristown, Pa. has taken out a patent for burning brick with stone coal. He burned a kiln last week, containing 250,000, which are said to be of a superior quality. By the use of coal as fuel, the expense is much reduced, and the time required to burn is dimished one half.

To join Glass together.—Melt a little isinglass in spirits of wine, adding thereto about a fifth part of water, and using a gentle heat, when perfectly melted and mixed it will form a transparent glue, which will unite glass so fast that the fracture will be hardly perceived.

Western Shepherd.

[Revised by the author for the Indiana Farmer and Gardener.]

Calculations and cautions. On the management of a flock in the natural prairie, before cultivated grasses are provided on the farm. The proper management of the prairie to prolong the pasturage fresh and young till winter sets in.

No country in a state of nature is to be found so free from the annoyances to the wool-grower, mentioned by Virgil in his third Georgic, as the great Prairies of Illinois.—The prairie grass is green, succulent, and nourishing, until the first part of July; from that time onward it becomes less and less acceptable. If a flock are kept upon it they must, in the latter part of summer, have a large range and fresh pasturage. But a method is known, to the frontier settlers, of retaining spring herbage, to the approach of winter. Select a patch of Prairie (some five or ten thousand acres) that has not been burned the preceding year. The mass of old dry grass, in the middle of June, is sufficiently combustible to allow fire to consume it with the growing crop of green grass.—Burn a patch in June, and the young grass will immediately spring up, which, in July, will afford another pasture in August, which will remain green and tender till killed by winter frosts. In this way juicy pasture may be secured from early spring until the succeeding winter. But some forecast is necessary to secure this. In the previous autumn these spots should be selected and made secure by burning *round* as the hunters know; otherwise they might be consumed in the general conflagration, which often sweeps hundreds of miles of prairie grass in the fall of the year. Supposing no cultivated grasses to be prepared, immediately this young prairie grass is killed by early frost. Sheaf oats, or hay and corn, should be given at night; the flock going out to pick what they can through all the fine days of autumn and winter.

In the summer the shepherd must have a cabin near his pasture ground, and a sheep-yard with a wolf-proof fence. The flock must be out at the first dawn of day, and graze late in the evening. During all the heat of the day they will *shade* in some neighboring grove. The shepherd must have his horn and rifle, and two couple of good hunting dogs, to chase the wolf and fox. The size of the flock may be limited only by the size of the pasture. Mr. Sheriden, who has eighty thousand sheep, on the pampas of South America, divides them into flocks of five thousand each, but I incline to think that a flock of two thousand is sufficient for a shepherd and a lad to tend. Of all the varieties of speculations afloat in the world, I have often wondered that the abundant herbage of our prairies has never attracted the attention of American wool growers. For a summer establishment, I should select an eminence on some of our extensive prairies, and build four cabins; for the families of four shepherds should diverge with their respective flocks, to the four points of the compass, and all return at night.

Where there is no cultivated grasses, there should be large fields of early spring feed. Also oats, sown, perhaps, in the same field where oats grew before, by plowing the field immediately the crop is off, and sowing about a bushel to the acre; this, with the shatter in harvesting, will produce much early winter food. Where there is no cultivated grasses for sheep to feed on in the autumn, it is somewhat difficult to keep up their condition in the latter part of the year.

Farmers, whose flocks are too small to allow of a shepherd, might derive great advantage from clubbing their flocks together, under one shepherd, for summer pasture; paying for shepherding in proportion to the number sent. At the approach of winter each flock could return to the owner's farm. Surely, where the summer feed can be had for nothing, and winter food is so cheap, the article of wool ought to pay us, if it is considered worth growing where land is worth seventy dollars per acre, and hay and corn at double and triple the price that they are with us. They must be kept in sufficient numbers to allow each class of sheep to be kept by themselves under a separate shepherd But to keep sheep to the greatest advantage there should be a large spread of cultivated grasses for the flocks to range on, early in the spring, in the autumn, and through the winter. Whenever the prairie grass gets hard they should be brought into the stubble fields, and the after-growth of the meadows. But the greatest advantage is to be derived from blue grass; shut up in June it will keep green all winter, and, if a succession of pastures is provided, the sheep will do well upon them all the winter, and will only need feeding when the snow is frozen on the ground. Too much industry cannot be used by sheep farmers in laying down a large spread of cultivated grasses, for fall and winter use. A woodland pasture would be a grateful change for sheep in the heighth of summer. A prairie flock may be made a very useful and profitable auxiliary in bringing into cultivation a prairie farm. A field enclosed in the prairie, and pastured the year before it is plowed, may be broken up afterwards with two horses, with more ease than four oxen could plow the prairie in its natural state. The small field of four or five acres, if shifted

three or four times in a season, will leave some twenty acres so much enriched that it will produce a double crop of corn. The wolf has kept us from folding our sheep in the field; whereby, the farmer loses much in the cultivation of wheat.

By the use of Mr. Hearsum's wolf-proof hurdles, it is hoped that the great loss in not manuring the land, by the process of folding, need be no longer submitted to.

Much of the welfare of the flock depends upon the regular care and gentle treatment given by the shepherd. If the flock does not exceed three or four hundred, it is customary to put the grown sheep of every description with the ewes and lambs, when grass becomes abundant in the prairie. The very young lambs, under two weeks, being retained with their mothers to acquire sufficient strength to go with the flock. During the warm dry summer season the shepherd should be mindful, to take out his flock by the first dawn of day; they will then have time to satisfy their hunger before the heat comes on. In the afternoon they should be suffered to graze until dark. These are two points of great importance, and always ought to be observed. In the middle of the day, when the sheep are resting under the shade of some grove, they require but slight attention. When the sheep are stationary and at rest, the shepherd may rest also. The shepherd should cast his eye, in the morning, over the whole flock, to see if there be any sick or lame sheep; which should be detained in the yard or put into a pasture, until he has time to attend to them. He will find it convenient to be provided with a small pen, with a little shed in it, near the outer gate, through which the sheep go to pasture; the invalids can then be easily caught and put in the pen, with a little food and water, until he has time to attend to them.

The manner of driving sheep to their pasture is all important to their condition. If they are driven hurriedly to and from their pasture, night and morning, it will keep them poor. So careful are some old shepherds in England, that the man often walks before to prevent the strong sheep from advancing too rapidly; for the front rank not only eat up all the food by the way, but cause the young and the weakly to over-exert themselves endeavoring to keep up. They should be suffered to go their own slow pace, grazing and picking as they go. The shepherd should drive on horseback; it is almost impossible to adjust the gait of the Horse to the pace of the sheep, and a feeling of impatience compels him to drive them too fast. When they are once in the open prairie the shepherd should be on horseback to hunt up stragglers, and to be able to leave and return to his flock at pleasure. When the ewes are with young, great care should be taken not to let them leap in or out of their racks, nor crowd through narrow gaps nor jump over low fences. When a ewe lambs she should be suffered to lick her lamb dry; the mother and lamb should then be put into a house prepared for them. The shepherd should see that the lamb sucks; which, if it does not do of its own accord, he must lay the ewe down and milk a few drops into the lamb's mouth; it will then suck eagerly. As the young ones come they should, with their mothers, be put into a flock by themselves. The shepherd, at this season, will require additional assistance, as attention, night and day, is required for about two weeks, for the lambing flock. The lambing season is attended with trouble if the ewes are in bad condition. They will then forsake their lambs. It is better to feed them more generously a fortnight before the time of lambing. It is not my purpose to enter into all the detail of the shepherd's practice, but rather to dwell upon those points without which success cannot be attained.

It is best for the lambs to come all together, and not to come straggling through the winter. To attain this point we separate all rams and ram lambs from the ewe flock by the first of August. In the last week in October we admit the rams with the ewes, where they continue for three weeks or a month. They are then again separated and kept in a flock by themselves during the winter. Crones, (that is sheep that have lost some teeth from age,) and the last year's lambs should be kept in a flock together, and fed more generously than the rest of the flock. Every person does not know a sheep has no teeth in its upper jaw. The age of a sheep is ascertained by its teeth. At a year old two of the front lamb's teeth are shed, and two broad sheep's teeth appear. These sheep are then called two-tooths, or shearlings. The second year two more broad teeth appear; these are called four-tooths, or two years old. The third year six broad teeth appear, in the fourth eight; after that we can only guess at their age by the appearance of the teeth, as in horses. When the lambs are two or three weeks old their tails should be cut off within three inches of the rump. Some take hold of the tail and cut it off with a knife; this, stretching the skin, causes the bone to protrude, and the wound is long in healing. The proper method is for one to hold the lamb steady, and lay its tail on a smooth and solid block of suitable height, and another lays the knife across the tail at the proper place, and, with a blow from a mallet, cuts it off clean in an instant. The castration of the ram lambs should take place at about

a month old. The lambs should be weaned in August. The shepherd should observe the ewes that have a redundance of milk and a very enlarged bag, and milk them a little for two or three days. The ewes will improve in condition after the lambs are weaned. About ten days before the rams are put to the ewes, the ewes should be put into good fresh pasture. When the flock goes into winter quarters it should be divided into separate divisions. The ewes by themselves, the last year's lambs, the stock wethers, the rams, fatting sheep, if any, and invalids; six separate flocks. The rams must have four times as much room as the others, to allow space for their horns. When the arrangement for feeding is complete, one general rule is to be observed, of great importance: it is to see that the sheep of each flock can all at the same time stand up and eat. If there is not quite room enough the weakest will be beaten off and starved before winter is out. The racks and troughs, be they ever so perfect or expensive, if this rule is not observed, loss will accrue. No matter what the plan of feeding is so that there is no waste, and each sheep gets its proportion.

The best shelter for sheep in the winter is a shed about fourteen feet wide, closed at the back and ends—open to the front and south—of sufficient heigth for a man to walk upright with bis hat on under the cross ties.—One of the cheapest, most perfect, and simple racks, can be made by two hands, in a day, sufficient to feed three hundred sheep. It is made of poles or fence rails, after the manner of making a negro fence: letting the back of the shed be the back of the rack, so that the sheep can put their heads and necks into the rack and reach the hay or sheaf oats at their ease. Drive two stakes about three feet and a half high, just wide enough apart to receive the ends of the rail. Two or three rails high is about the height at which a sheep can stand easily and reach his neck over to feed. Then an interval sufficient (about eighteen inches) to admit of the sheep's head and neck easily, but not the body. An inch pin through the two stakes supports the first rail above; two or three upper rails will be found sufficient to prevent the sheep from jumping over. A flat-bottomed trough may be set within these racks, which can be used when wanted, without interfering with the feeding of hay or sheaf oats. Great care should be taken that the bottom rail or pole should be perfectly smooth, or it will wear the wool from the lower part of the sheep's neck. The corn to the ewes (indeed to all sheep) must be given shelled. When they are fed with sheaf oats they will want no corn. We pass down these racks, once in a day or two, and take out the straw or coarse part of the hay, left by the sheep, and feed it to cattle; they will eat it up clean. Or it may do for litter for the sheep shed. For the last year's lambs sheaf oats is better than corn for their tender teeth. If grain should be short the stock wethers will do on hay alone,—but the better they are kept the heavier will be their fleeces. The green rye, in the spring, will increase the milk of the ewes.

I will conclude my observations upon the keeping of sheep with the farmer's golden rule, applicable to the condition of every animal upon his farm: "That at the end of every week each sheep should be worth something more than it was at the beginning of the week."—G. Flower.

Stocks for Fruit Trees.

BY PROF. KIRTLAND.

In a previous article, we treated very fully on the method of raising stocks for the Cherry. Attention to the rules there laid down will insure success in producing and raising stocks suitable for most of our larger fruits.

It may be well to offer a few remarks on the selection of kinds adapted to each variety.

1st. *The Apple.*—As this fruit flourishes so well in our climate, in almost every soil and locality, we have little occasion to cultivate it except as a standard tree. Seedlings of the common kinds furnish stocks, that answer every purpose. We have seen a few trees raised by engrafting upon the common wild crab, and have been informed that seedlings from Hughes' Virginia Crab have boen employed for stocks in some parts of the country. These are said to be preferable to the common kinds, but our own experience does not enable us to speak with any certainty on this point.

The apple can be dwarfed by engrafting upon suckers of the Paradise-stock. Trees thus raised are rather objects of curiosity than use, and are usually soon cut off by disease and decay. If it be desirable to dwarf this fruit, it is a better method to employ for stocks, seedlings of the Siberian Crab. Engrafted on these, most of our fine varieties will assume a stinted habit, which if aided by *spur pruning*, judiciously applied, will soon establish a dwarfish character, and they will be at once thrown into a bearing state. After this has been once accomplished, attention to *spur pruning* annually will continue the habit. The healthy condition of the tree will not be destroyed, while its fruitfulness may be continued for a long time.

The apple will take by budding and en-

grafting upon the Pear, Quince, Thorn, Medlar and other stocks naturally allied to it—but the growth will not usually remain healthy for any considerable time.

2d. *The Pear.*—For extensive orchards, standard pear trees are to be preferred in this country. The best stocks are produced from the seeds of Button or Choke-Pear.—These small, austere kinds are more prolific in plump seeds than the finer cultivated varieties; and their seedlings are more healthy and durable. We have succeeded in raising many thousands in a year from a few bushels of the little Button Pear, procured in a decayed state from one of our city hucksters. The wood of these seedlings is almost as compact and tight grained as of the wild crab-apple.

Horticulturists have discovered that it is often advantageous to check the natural vigorous habit of the Pear, by engrafting it upon some stock that will restrict its growth. This results in producing a dwarf tree, that is prone to form great quantities of fruit-buds at an early age—besides the qualities of many varieties of the Pear are found to be improved by this change. The Quince and the Thorn are usually employed for this purpose. On the apple it will not be durable. It is a query whether the root of Japanese Quince would not answer well for this purpose.

For gardens, yards, and small enclosures, dwarfs are preferable to standards. It has been supposed by some that this process of dwarfing is a guard against attacks of the fire-blight; but we place no confidence in it, having seen many fine dwarf trees destroyed by this malady. They had been recently imported from Paris and placed in the vicinity of an old pear tree extensively affected. The ensuing year the disease spread far and wide among the nursery of dwarf trees, and was only arrested by the most careful attention to amputating and burning diseased branches.

3d. *The Quince.*—From a few limited experiments, we are led to conclude that this fruit is more hardy, durable and productive if engrafted on the stock of the Thorn. The experiment is worthy of further trial.

4th. *The Plum.*—After repeated trials we are led to prefer seedlings of the common wild plum to all others for stocks. The graft should be inserted either on the root, below the surface of the ground, or branches of large trees five or six feet from the earth.—Many of the trees in the gardens at Economy were originally large wildings transplanted from the woods, and, subsequently engrafted. They prove to be profuse bearers. The wild stock, being less vigorous than the fine varieties, imparts a dwarfish tendency, just sufficient to induce a profuse productiveness of fruit.

The peach is frequently employed as a stock for the plum, but we find it to produce results the reverse of the plum. By furnishing the plum with an excess of nutrition it occasions a luxuriant growth of wood, a predisposition to disease and little tendency to the formation of fruit-buds.

5th. *The Apricot.*—The same objections are alleged against the peach as a stock for this fruit. We employ exclusively the wild plum, and with great success.

The Apricot will take upon the wild plum either by budding or engrafting. The best method is to whip-graft, early in the spring, upon the roots of young seedling plums; and then to set them so deep that *one bud only* of the graft shall be above the earth.

Propagated in this manner and placed on a northern exposure this fruit is tolerably certain on the shores of Lake Erie--but if the trees be planted on the south side of a building as is the too common practice, the fruit is liable to be destroyed by vernal frosts, and the tree by both winter and summer sun.

We have made many attempts to raise new varieties, but have rarely been able to extend the life of a seedling Apricot on its own roots, beyond the second or third winter.

6th. *The Peach.*—In some parts of Europe this fruit is propagated on plum stocks but in this country the plan has not generally succeeded. Last year we saw a vigorous growth of the peach on a plum stock in the garden of Judge Humphrey, at Hudson; but whether it continues in that healthy condition this season we have not learned, Perhaps if we were to employ some of the more free-growing plum stocks, such as Coe's Golden Drop, or Yellow Egg, the plan would succeed. Propagated on the wild plum stock, the peach, will grow for a year or two but ultimately will decline and perish. We prefer its own stock, for the peach.

For those who are about to raise stocks for a nursery we would lay down the following rules, though they are perhaps only a repetition of what we have previously remarked:

1st. Be careful that the fruit from which you would save seeds or stones is dead ripe, and that the meats are plump.

2d. That the seeds or stones do not become dry after they have been separated from the pulp.

3d. That they are immediately mixed with moist earth and placed in a shady place, secure from vermin or swine—still so situated that they will be acted on by frost during winter.

4th. That they are sowed out at the earliest approach of spring.

5th. That such of the stones as do not cleave by the frost be carefully cracked.

6th. That in selecting a location for a seed-bed, you select a rich, sandy or light loam, covered with turf.— *W. R. Hort. Mag.*

Manufacture of Cheese.

The following is an extract from the statement of ALONZO L. FISH, of Herkimer county, who received the first premium of the New York State Agricultural Society, for the best cheese diary, in 1844.

Calves' rennets are used *only* after being dried one year. There are less animal properties in them than in new rennets, and will not make cheese swell in warm weather, and on shrinking, leave them like honey comb, full of holes, with a rank flavor.

Calves, whose rennets are designed for cheese making, are not allowed to suck sick cows, or those giving bad milk, but are fed a plenty of good milk, from five to ten days old; twelve or fifteen hours after sucking, when the gastric juices are most abundant and pure, the rennet is taken out and stretched on a bow; as much fine salt is added as will adhere without draining, and hung in good air to dry. Milking is done in tin pails, strained through a large tin strainer into a tin vat, where it is not skimmed nor moved till the cheese is made. The pails are set into a common sap bucket, which being light and smaller at bottom than top, a little press on the pail will fasten the bucket to it so that it carries with the pail without any inconvenience. A light tap on the bucket will drop it, and leave the pail clean and not bruised. A tin vat, large enough to hold the milk, is set within a *larger wooden vat*, with one inch space between the sides and bottoms of the two, to admit water, which is cooled by ice and heated by steam, which water cools the milk to take out the animal heat, warms it to receive rennet, remains and heats whey and scalds curd. It is discharged by a cock to pass off into a tub, and scalds bran or meal for slop feed, when it is required. Scalded feed is required daily when the cows are milked, on hay feed. A large reservoir is built of stone and cement to contain fifty hogsheads of rain water from buildings, to discharge by a cock into the above described space into a steam generator or into a tub, or any other place in the lower rooms, where it is desired. A pump affords water to this apparatus in case of drouth. Thus the same water is made to perform three distinct offices, by no more labor than to turn three cocks with thumb and finger.

After water in the reservoir is not wanted for cheese making, a pipe conducts it into the top of ice house to freeze in solid mass in winter, for cooling milk in the next season. No skimmer, pail or dipper, is required about this apparatus, only to milk in, as the cream which rises over night is not separated, nor no dipping of milk, whey or water. The heating is done daily, by a handful of chips, or four quarts of charcoal, and all shift of apparatus can be made with one hand while the other is employed in the milk or curd. A young man is hired at $11 per month, for eight months, to take the whole charge of nursing, feeding, making and take care of milk and cheese through the summer, and does no other business. He is required to keep a register, daily, of the variation (if any) of heat, salt, quality and effect of rennet; number of cows milked, quantity of milk from which cheese is made, condition of curd when put to press, when cheese is put on shelf that it is weighed and numbered upon the bandage, so that when cured the result of certain variations may be known. An inch pipe passes from the steam generator and discharges steam into water under the tin vat; in ten minutes the whole mass is warmed to ninety degrees to receive rennet. The steam is then turned off (which would otherwise be lost) into a tub which stands high enough to discharge into the chese vat and scald it after the cheese is made. Hot water is drawn at any time from the same to cleanse pails, cloth hoops &c. Calves' rennets only are used, after being one year dry, they being less apt to make cheese swell in warm weather, and of better flavor. A piece of rennet, to bring curd in forty minutes, is pounded fine in an iron mortar, and soaked a short time in warm water mixed with a little annatto, drained, strained, and put into the milk. When come, the curd is cut in large pieces with a wood knife, thickest in the middle, to give it a slight pressure before there is much surface exposed to be rinsed by whey; after standing ten minutes, the pieces are cut smaller with the same knife, then broken up by putting the hands to the bottom of the tub, bringing them through to the top, with fingers spread, with a slow motion, to give it all a slight pressure without tearing fine while tender; heat is kept as high as eighty-eight degrees while working; steam let on; the motion and pressure with hands increased with increase of heat and toughness of curd; heat is kept up to continue the action of the rennet, as it is most active when warm; heat raised to ninety-eight degrees; the steam is then turned off; it is kept at that heat thirty minutes. The scalding is now done; the water and whey are discharged, one pound of fine salt to fifty of curd is added, while warm, to shrink the curd and prevent holes in the cheese. After getting cool it

is put to press; the pressure is from five to seven tons; in six hours is turned into clean cloth, and again in twelve hours more is taken out of the press and put upon the shelf, weighed, bandaged, greased with oil of whey butter, turned daily. No greater heat is ever used in the operation than the natural heat of milk, (ninety-eight degrees.)—*Alb. Cultivator.*

The Cacti-Cochineal.

The great variety and singularity of the Cacti, says the New York Farmer and Mechanic, give them an interest that places them among the wonders of the vegetable world. There are two noted specimens now exciting much attention in England—sent by F. Staines, Esq. of Potosi. In the Gardener's Chronicle is a full account. The following is from Chambers Edinburgh Journal.

After being unpacked the monster vizuaga was seen as perfect, as green, and as uninjured, as if it had been that morning removed from its native rocks, the very long flagelliform root arranged in coils like the cable of a ship. Ten of our strongest men with dificulty placed it in scales, to ascertain its precise weight; and afterwards with still greater difficulty, transferred it perfectly unharmed to a tub prepared with suitable soil.—The net weight was 713 pounds; height from the surface of the earth 4 1-2 feet; measured over the top from the ground, 7 feet 7 inches; number of ridges or costae, 44; each ridge had 50 tufts of spine; and as in each tuft there are 4 spines, the total number must be 8800—no insignificant armature, when we remember that each spine is not less than three inches long. Compared with the ordinary growth of the globular cacti, the vizuaga is a Titan indeed.

The economical value of the cactaceæ is not the least important feature in their history. Many of the species yield an esculent fruit, which partakes of that acidulous flavor so much esteemed in the gooseberry and currant family. The pulpy berry of the Opuntia tuna, which resembles in shape and size the fig of Europe, has gained for it the name of the 'Indian fig,' a term by which the whole family is sometimes designated. This fruit forms a very refreshing repast in Spanish America and the West Indies; and that gathered from the common opuntia of Etna is sold for a similar purpose in all the towns of Sicily. The fruit of the different species is known by such names as Indian fig, prickly pear, strawberry pear, &c.—the latter being the produce of a cereus, and the most highly prized for its flavor and cooling properties.

In Brazil, the opuntias are much planted round houses, as a fence which neither man or animals can break through—a use to which we believe they are also applied in the South of Europe. When the island of St. Christopher (St. Kitts) was to be divided between the British and French, three rows of O. tuna were planted by common consent to form the boundary. The chief importance of the cacti and opuntias, consists in their being the natural food of the cochineal insect—*cocus cacti*,—so valuable in the arts.—This insect, which is not unlike the mealbug of our gardens, has the substance of the body coloured of a rich scarlet throughout; the richness of the dye depending on the nature of the plant on which it feeds. The species in great repute is *Opuntia cocifera*, or spineless cochineal fig, of which there are extensive plantations in Mexico and the West Indies, for the purpose of preparing cochineal. The male insect is winged; the female alone is used as a dye. There are two kinds of cochineal, which are reputed to feed on different species of cacti. One of these, the wild or common cochineal, is covered with a silky envelope, and has a powdry or mealy covering. The female insects, after feeding on the cacti for three or four months, are brushed off by the means of a squirrel's tail, and are then killed by exposure either to the sun or the vapour of hot water. When dried, they are exported in large quantities; and the coloring matter is easily extracted by water and alcohol, or hartshorn. It is stated that 800,000 pounds of cochineal are annually brought to Europe; each pound containing about 70,000 insects. The annual consumption in Great Britain alone is estimated at 150,000 pounds; about 300,000 sterling. So valuable to man is an insect which ignorance would be apt to regard as mean and insignificant.

It is a curious consideration that two such important substances as silk and cochineal—the one adding beauty to the other's utility—should be the produce of small and apparently insignificant insects. The silkworm obtains its food from the mulberry; the cochineal insect feeds on the cactus. The *material* of silk and cochineal must exist in the vegetable structure; yet man, with all his boasted skill in chemical science, can neither imitate the fibre of the one, nor the dye of the other. The animal chemistry of the tiny insect outstrips the most ambitious efforts of the laboratory, as far as the works of nature will ever surpass the efforts of human art. The insect, however—and here lies the consoling distinction—in producing its finest fabric, merely obeys a law of nature which it cannot avoid; with man, every product is the result of intellectual skill and responsible reason.